9.0 ENVIRONMENTAL EFFECTS

Weed Establishment

Confirmed sightings of the following noxious weeds have been identified in Oneida County (Prather et al. 2002): black henbane (*Hyoscyamus niger*), Canada thistle (*Cirsium arvense*), Dyer's woad (*Isatis tinctoria*), leafy spurge (*Euphorbia esula*), field bindweed (*Convolvulus arvensis*), musk thistle (*Carduus nutans*), and Russian knapweed (*Acroptilon repens*). Some species, such as halogeton (*Halogeton glomeratis*) and downy brome (cheatgrass) (*Bromus tectorum*) are not listed as noxious but do impact the environment. Cheatgrass has increased the extent and frequency of wildland fires in the Great Basin and Upper Columbia River Basin with significant impacts in natural and fiscal resources (Billings 1994). Cheatgrass as well as other invasive species can affect native ecosystems by changing fuel properties, which in turn affect fire behavior and ultimately alter fire regime characteristics such as frequency, intensity, extent, type, and seasonality of fire (Brooks et al. 2004). **Note:** This list is not all inclusive and will require updating as new information becomes available.

Before construction of fuel breaks, mowing, disking or other disturbance:

- Survey and map invasive and noxious weeds occurring on site scheduled for construction.
- Determine infestation size and control weeds with appropriate methods. Use a State-certified pesticide applicator for specific recommendations and chemical treatment.
- Train equipment operator on weed issues prior to start date. This training should include:
  - Consequences of disturbance.
  - Methods of prevention including cleaning equipment.
  - Identification of problem plants in the immediate area.
  - What to do when an invasive or noxious weed is sighted.
- Decontaminate vehicles and equipment entering construction site to remove weed seeds and other propagules.
  - Inspect equipment before entering project area.
  - Wash equipment (if possible) to remove all plant parts including seeds and root.
  - Prevent equipment from leaving site until inspections have been preformed.
- Minimize soil disturbance.

During construction of fuel breaks, mowing, disking or other disturbance:

- Control all infestations on construction site.
  - Consult State-certified pesticide applicator.
- Minimize and control vehicular traffic entering and exiting construction site, especially those within the decontamination boundaries.
  - Decontaminate vehicles, equipment, and personnel.
    - Wash (if possible) equipment to remove all plant parts.
    - Inspect vehicles, equipment, and clothing.
- Take precautions to prevent the spread of weeds.
  - Avoid entering areas infested with weeds.

- Minimize soil disturbance.
  - Restrict vehicles to specified pathways.
- Conduct surveys of project area every two weeks during the growing season (April - October) to confirm weed free status or identify new weed infestations.

After construction of fuel breaks, mowing, disking or other disturbance:

- Decontaminate all outgoing equipment before permitting them to leave.
- Survey all disturbed areas, adjacent areas, and destination areas for noxious weeds.
  - Map infestations, critical sites, and sensitive areas.
  - Treat weeds with appropriate method in a timely fashion.
    - Use a State-certified pesticide applicator for specific recommendations.
- Establish native perennial vegetation in all disturbed areas and monitor for emergence of non-native species.
- Continue to monitor construction site and treat infestations until weeds no longer appear or are controlled equal to or better than before the commencement of the project.
- Document all monitoring and treatment of noxious weeds.

Soil Erosion

To prevent soil erosion and establish permanent vegetation that is fire resistant Greenstripping is recommended. Greenstripping, or establishing strips of fire-resistant vegetation to reduce the spread of wildfire, is an established practice on BLM lands in Idaho (Pellant 1992). Greenstripping reduces wildfire spread by disrupting fuel continuity, reducing fuel accumulations and volatility and increasing the density of plants with higher moisture content. The reduction of the overall fuel load reduces the flame lengths and heat intensity produced on the greenstrips, but the increase in annual species composition and fine fuels produces increased rates of spread. Therefore, the following characteristics are important when selecting species for greenstripping on semiarid rangelands such as Oneida County: 1) adaptability to the range sites, 2) competitiveness with annual weeds, 3) ease of establishment, 4) low flammability, 5) open canopy and spacing, 6) palatability by livestock and wildlife (for efficient removal and control of litter and fine fuel buildup), and 7) resilience and re-growth capabilities.

Construction of Dry Hydrants

Environmental Effects to be considered:

- Potential impact to riparian landowner.
  - How much water is needed?
  - Where is the available water and is there a land use agreement needed/required between the landowner and the Fire District?
  - Is a permit for a dry hydrant required by the state or a federal agency? If so, can the application for the permit be obtained at the county level?
  - Does the hydrant location require certain water depth, composition of streambed or lake bottom, ease of digging, protection of hydrant during winter?
  - Does this location pose a threat to terrestrial or aquatic wildlife species?
  - Will the location survive winter temperatures?

The National Interagency Fire Center (NIFC, 2004) discusses the process of planning to insure adequate water supplies and distribution in the fire district. This booklet covers the design features and installation of dry hydrants.

Restoration Guidelines Following a Wildland Fire

Areas that generally burn hot are likely to have the greatest alterations in soil characteristics to the landscape (Graham 2003). These alterations include but are not limited to: (1) loss of surface soil organic matter, (2) reduced ground cover resulting in decreased infiltration of water and increased surface runoff and peak flows, and (3) the formation of pedestals, rills, and gullies.

The NFP and the Idaho Plan address rehabilitation and restoration of burned areas and fire-adapted ecosystems. Consider the following site restoration guidelines:

- Fill in deep and wide fire containment lines
- Waterbar newly created roads or containment lines, as necessary, to prevent erosion
- Install sediment controls to prevent sedimentation of waterways
- Restore all fire staging areas with native seed mixes approved by BLM, NRCS, or other local experts
- Control all noxious weed invasions
- Evaluate the necessity to revegetate all or portions of the burn or areas impacted by fire suppression activities using native species by broadcast seeding, drilling, containerized stock or wildlings
- Encourage the use of plant stock from local collections of site-adapted stock
- Base decision to revegetate an area on inventories of affected areas for natural recovery that approaches pre-fire densities of native species
- Preclude off-road vehicle use in burned area for at least two growing seasons
- Continue monitoring until restoration is complete
- Conduct surveys of burned areas to assess damage to cultural resources.